Standards of Public Land Health
Evaluation of 64018 SOUTH BROWN LAKE Allotment
[12/05/2006]

The Roswell Field Office conducted Rangeland Health Assessments at 1 study site within South Brown Lake, allotment #64018. These assessments evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of this field assessment. A summary of this assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64018-BROWN LAKE-F039	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on South Brown Lake, allotment #64018. Ten of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on 1 trend plot location within this allotment were utilized to make rangeland health determinations. Quantitaive evaluations are performed by the Roswell Field Office, which include some or all of the following: ground and vegetative cover and composition, production, frequency and ecological condition. These collections which were initiated in the late 1970's/early 1980's, are scheduled and conducted approximately every 5 years.

This allotment only contains one study site. This site has high soil stability with little to no evidence of rills, pedestals, or gullies. Areas observed while traveling to the site and areas nearby show some evidence of these features resulting from roads and vehicle use. Water flow patterns are only evident in bare areas. Soil aggregate stability was low in the bare areas, but very high in vegetated areas. Bare areas are very rare. Biotic crusts are common and continuous in plant interspaces throughout. Soil stability throughout is very good and appears to be good on this allotment.

Hydrologic function is as expected for this site. Water runoff and infiltration are functioning properly according to the Ecological Site Description. Changes in vegetative composition have occurred. Tobosa grass dominates the site, but this change is not likely adversely affecting runoff or infiltration. If anything, the carpet of tobosa is likely increasing infiltration and decreasing runoff and any associated erosion. In traveling to and from the site, other areas of the allotment appear to be functioning well.

Species diversity is less than expected for the site. This is likely true for all loamy areas within this allotment. Cholla is very evident on the site, but it appears that many are dying due to a

fungal disease. Production on the site is very high and is likely higher than usual due to last year's high precipitation. Tobosa grass will likely continue to dominate the site and other more desirable forage species will continue to receive higher than desirable use. There was no livestock use on the site at this time, but cattle were in the general area.

Pronghorn are a keystone species for this area. Evidence of their use of the site was common. Pronghorn habitat for this area is satisfactory.

It is the professional opinion of the Assessment Team, public land within allotment #64018, South Brown Lake meets Upland and Biotic Standards. There are no Riparian issues present therefore this standard was not addressed. See site notes, comments and recommendations for further information regarding this assessment.

Recommendations: The road passing through this area has resulted in accelerated runoff in the local drainage. There is some active head cutting occurring. All the roads within this allotment should be evaluated for this condition and corrective measures taken.

All loamy areas within this allotment are dominated by tobosa grass with a noticeable reduction in other more desirable grasses. Prescribed burning or other disturbance (i.e. herd effect) followed by appropriate rest may help improve vegetative diversity.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64018-BROWN LAKE-F039			
Legal Land Desc	NENE 19 0070S 0210E Meridian 23	Acreage	4095
Ecosite	070CY109NM LOAMY CP-3	Photo Taken	Y
Watershed	13060005070 SALT		
Observers	JACKSON/BRITTON	Observation Date	03/20/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	PDB	Soil Taxon Name	PASTURA
Texture Class	NM644 L	Soil Phase	PASTURA-DARVEY
Texture Modifier	NM644 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.55	NOAA Growing Season Precipitation	8.18
NOAA Avg Annual Precipitation	9.73	NOAA Avg Growing Season Precipitation	8.01
Disturbances and	There was little evidence of livestock use at the time of the site visit, but		

Animal Use:	cattle are in the area.

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	Rills are only associated with road use.					
S H	Water Flow Patterns				X	
Comments:	Water flow patterns are only evident in the few bare areas.					
S H	Pedestals and/or Terracettes				X	
Comments:	Some pedelstalling has occurred and continues. It is minimal.					
S H	Bare Ground					X
Comments:	Approx. 25% bare ground, which is much less than expected in ESD.					
S H	Gullies				X	
Comments:	Active head cuts associated with road/vehicle use.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:						
S H B	Soil Surface Resistance to Erosion					X
Comments:	Biotic crusts are common in the plant interspaces.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	This is borderline with None to Slight. There is some evidence of soil loss, but it is minimal.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	This is borderline with None to Slight. There appears to be a slight increase in the shrub component compared to the ESD.					
S H B	Compaction Layer					X
Comments:	Good root penetration.					
B	Functional/Structural Groups			X		
Comments:	The number of species within the grass group is less than expected. Tobosa grass					

	dominates the site. Species do not match well with the ESD. Cool season species are lacking.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:						
B	Annual Production					X
Comments:	2006 was a relatively high precipitation year resulting higher than expected production.					
B	Invasive Plants				X	
Comments:	Cholla is evident but is showing signs of mortality.					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts					X
Comments:						
B	Wildlife Habitat					X
Comments:	Pronghorn antelope are a keystone species in this area. Evidence of their use of the site was common. Antelope habitat for this area is satisfactory.					
B	Wildlife Populations					X
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	4	6
H	Hydrologic	0	0	0	5	6
B	Biotic	0	0	1	2	10

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Soils are generally stable throughout the site except for where roads pass through.	0	0	10
Hydrologic		0	0	11
Biotic	There appears to be a shift in vegetative composition. Tobosa grass dominates the site. Other species are conspicuously deficient or lacking. Otherwise, most indicators fall into "none to slight".	0	1	12

Site Notes: This site has high soil stability with little to no evidence of rills, pedestalling, or gullies. Areas observed while traveling to the site and areas near the site show some evidence of these features resulting from roads and vehicle use. Water flow patterns are only evident in bare areas. Soil aggregate stability was low in the bare areas, but very high in vegetated areas. Bare areas are very rare. Biotic crusts are common and continuous in the plant interspaces throughout the site. Soil stability throughout the site is very good.

Hydrologic function is as expected for this site. Water runoff and infiltration are functioning properly according to the ESD. Changes in vegetative composition have occurred. Tobosa grass dominates the site, but this change is not likely adversely affecting runoff or infiltration. If anything, the carpet of Tobosa is likely increasing infiltration and decreasing runoff and any associated erosion.

Species diversity is less than expected for the site. Cholla is very evident on the site, but it appears that many are dying due to a fungal disease. Production on the site is very high and is likely higher than usual due to last year's high precipitation. Tobosa grass will likely continue to dominant the site and other more desirable forage species will continue to receive higher than desirable use. There was no livestock use on the site at this time, but cattle were in the general area.

Antelope are a keystone species for this area. Evidence of their use of the site was common. Antelope habitat for this area is satisfactory.

Plant species noted at the site include: dwarf desert holy; blue grama; black grama; tobosa grass; vine mesquite; catclaw mimosa; prickly pear (spp); cholla; yucca; ERIOG (unk); pussytoes.

Determination of Public Land (Rangeland) Health for 64018 SOUTH BROWN LAKE

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on these assessments, it is my determination that public land within South Brown Lake, allotment #64018, meets the (1) Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/ EDDIE BATESON	08/24/2007
Assistant Field Manager	Date